



NAVSEA

INDIAN HEAD

Surface Warfare Center Division

INDIAN HEAD DIVISION

YEAR IN REVIEW

2000

A Message From the Commander and Director

As part of the Naval Sea Systems Command (NAVSEA) we support the corporate mission of “Keeping America’s Navy #1 in the World by providing the Navy operationally superior and affordable ships, systems, and ordnance throughout their life cycle...for today, tomorrow, for the Navy after next.”

Indian Head Division is focused on energetics: explosives, propellants, and pyrotechnic materials and systems. Our value is providing safe energetic solutions for the warfighter.

To meet the fleet’s energetics requirements we have made decisions and have taken action to position IHDIV to provide quality service for today, build for the future, and engineer the Navy after next. Tactically we have worked to:

- Properly size the workforce with the right skill sets.
- Recruit and hire engineers to rejuvenate the workforce.
- Enter into academic partnerships to support lifelong learning.
- Identify facilities for demolition and thereby reduce overhead expenses.
- Define requirements for new facilities to maximize efficiency and take advantage of new technology.

The majority of the Navy’s energetics workload, expertise, and facilities are within the NAVSEA corporation and specifically at Indian Head. In 2000 IHDIV proposed a coalition management structure to preserve energetics as a core equity, and balance roles across NAVSEA field activities. We were assigned to lead this effort, now called the Ordnance Product Area Coalition. This is a proactive move that will ensure strategic management of Naval ordnance and energetics capabilities.

Welcome to the IHDIV 2000 Year-in-Review. The information that follows documents the pride of our military and civilian employees who collectively ensure that we safely carry out our mission to support the warfighter.



CAPT Marc A. Siedband
Commander

A handwritten signature in black ink, appearing to read "M. Siedband".



Mrs. Mary E. Lacey
Director

A handwritten signature in black ink, appearing to read "Mary E. Lacey".



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Mission

We ensure operational readiness of United States and allied forces by providing technical capabilities necessary to rapidly move any “energetics” product from concept through production, to operational deployment.

Our capabilities include:

Research, development, testing, and engineering
Acquisition
Manufacturing technology
Manufacturing
Industrial base, fleet, and operational support

for:

Warheads
Explosives
Propellants
Pyrotechnics
Energetic chemicals
Rocket, missile, and gun propulsion systems
Missile simulators, trainers, and test and diagnostic equipment
Tri-Service cartridge-actuated devices, propellant-actuated devices,
and aircrew escape propulsion systems
Other ordnance products.

Our capabilities provide technical expertise for special weapons, explosive safety, and ordnance environmental support. These technical capabilities and this expertise support all Naval warfare areas as well as the Army, Air Force, and private sector.



Tenant Commands

Shown are the major tenant commands that reside at Indian Head Division. Each tenant reports through its own chain of command. Tenants lease space and purchase services from the Indian Head Division host.

CHEMICAL BIOLOGICAL INCIDENT RESPONSE FORCE



Colonel Carlos Hollifield
Commanding Officer

When directed, the Chemical Biological Incident Response Force responds to terrorist incidents involving the use of chemical, biological, radiological, or nuclear (CBR-N) weapons of mass destruction in order to assist local, state, or federal agencies and designated Commander in Chiefs in the conduct of post-incident mitigation actions by providing capabilities for agent detection and identification; casualty extraction, extrication, and decontamination; and emergency medical care and stabilization of contaminated personnel. Further, deploy task-organized forces to support national level security events, first responder training programs, and enhanced CBR-N training for military organizations as may be required.

Personnel: military - 373



NAVAL ORDNANCE SAFETY AND SECURITY ACTIVITY (NOSSA)



Captain Robert M. Honey
Commanding Officer

The Naval Ordnance Center was renamed the Naval Ordnance Safety and Security Activity (NOSSA) on 1 October 99. This change resulted in a more focused organization in the areas of safety, security, and environmental compliance. The NOSSA serves as the Department of the Navy's Technical Authority for Explosives Safety, provides management of the DON Insensitive Munitions Program and the Naval Sea Systems Command's Ordnance Quality Evaluation Program, provides ordnance environmental support to Navy commands, and also serves as the principal authority on all matters related to naval ordnance transportation safety and security worldwide.

Personnel: military - 4, civilian - 68, contractor - 5



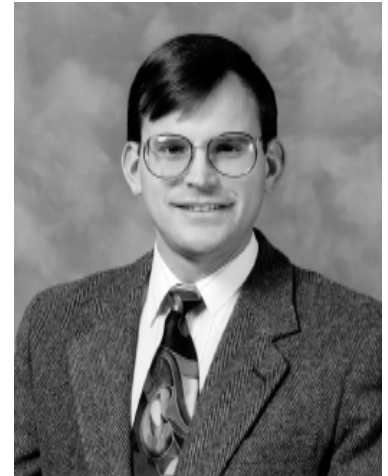
NAVAL EXPLOSIVE ORDNANCE DISPOSAL (EOD) TECHNOLOGY DIVISION



Captain Daniel M. Renwick
Commanding Officer

The Naval Explosive Ordnance Disposal (EOD) Technology Division exploits technology and intelligence to develop and deliver EOD information, tools, equipment, and their life cycle support to meet the needs of Joint Service EOD operating forces and other customers.

Personnel: military - 74, civilian - 198, contractor - 62



Jason C. Shaffer
Executive Director

NAVAL SEA LOGISTICS CENTER, DETACHMENT ATLANTIC



Mr. Nate Fernandez
Director

The Naval Sea Logistics Center, Detachment Atlantic serves as the Naval Sea Systems Command (NAVSEA) headquarters center for applied information technologies and solutions as well as the center for logistics operating systems support for the Fleet Logistics Support Directorate. NAVSEA information management functions include headquarters networking operations and maintenance, electronic distribution of naval messages to the desktop, automated information systems security and accreditation, and modification and operation of headquarters corporate systems. The facility provides testing, prototyping, and implementation of corporate and logistics related information applications for the naval shipyards, fleet support and logistics activities, program executive offices, and other NAVSEA field activities.

Personnel: civilian - 139, contractor - 40



JOINT INTEROPERABILITY TEST COMMAND



Mr. Michael P. Mangan
Detachment Commander

The mission of the Joint Interoperability Test Command (JITC) is to formulate, implement, and direct a Command, Control, Communications, Computers, and Intelligence (C4I) test and evaluation program that provides comprehensive, objective, and accurate C4I system assessments and interoperability certification. JITC strengthens the operational effectiveness of the warfighter by providing C4I system assessments and technical support during exercises and contingencies.

Personnel: military - 44, civilian - 40, contractor - 30



Listed below are the additional tenant commands located at the Division:

- **Explosive Ordnance Disposal School Detachment.** Provides instruction to explosive ordnance disposal technicians from all four services in advanced access and disablement and advanced explosive ordnance disposal management and technology. Personnel: military - 54, civilian - 1
- **Naval Computer Telecommunications Support Detachment.** Manages, operates, and maintains facilities, systems, and equipment necessary to provide radio and satellite communications support for the Pacific and Atlantic Ocean fleets. Personnel: civilian - 2, contractor - 6
- **Branch Medical and Dental Clinic.** Keeps the uniformed services fit to meet all operational commitments; provides superb comprehensive healthcare supported by sound education, training, and research; enhances healthcare delivery by attending to the physical, spiritual, and emotional needs of our staff and patients. Personnel: military - 22, civilian - 9
- **Defense Automated Printing Service.** Responsible for automated printing within the DOD, encompassing electronic conversion, retrieval, output, and distribution of digital and hardcopy information. Personnel: civilian - 2
- **Naval Ammunitions Logistics Site Office.** Reports under Naval Supply Command (NAVSUP) and performs ordnance logistics functions. Personnel: military - 1, civilian - 5, contractor - 3
- **Resident Officer in Charge of Construction.** Administration and management of military and other construction contracts at Indian Head Division to meet the customer's operational requirements; obtain quality facilities; be timely; and obtain the lowest reasonable cost. Personnel: military - 2, civilian - 9, contractor - 2



Demographic Profile

- 3,500 Acres, 25 Miles South of Washington, DC
- 1,600 Buildings
- 2,316 Civilian Employees (includes all tenants)
- 550 Military Personnel (includes all tenants)
- 220 Contractors
- 580 Military and Family Members Living in Base Housing
- \$86.7 Million in Military Construction Projects Invested Over the Last Ten Years
- \$1.6 Billion Plant Asset Value
- \$80 Million Investment in Environmental Compliance and Protection Initiatives over the past 10 Years
- Charles County's Largest Employer



HUMAN RESOURCES DISTRIBUTION

WHERE WE LIVE

	Number of Employees	% Employees
Calvert County	56	3%
Charles County	1,302	61%
Prince Georges County	202	9%
St. Mary's County	118	5%
Other Maryland	101	5%
Virginia	220	10%
Washington, DC	19	1%
Other States*	131	6%
Total	2,149	

*Includes seven sites that report to the Indian Head Division base commander but are located at different locations:

- Packaging, Handling, Storage, and Transportation Department, Colts Neck, New Jersey
- Information Engineering Department, Concord, California
- Quality Evaluation Technology Department, Concord, California
- Strategic Systems Evaluation Department, Seal Beach, California
- Airborne Weapons Evaluation Department, Yorktown, Virginia
- Explosive Engineering Division, Yorktown, Virginia
- Special Weapons Department, McAlester, Oklahoma

AVERAGE YEARLY SALARY BY AGE

AGE	AVERAGE SALARY	# EMPLOYEES
18 - 25	\$28,069	65
26 - 35	\$49,297	247
36 - 45	\$57,613	774
46 - 55	\$58,141	778
56 - 65	\$61,355	266
65+	\$61,682	19
All Employees	\$52,693	2149

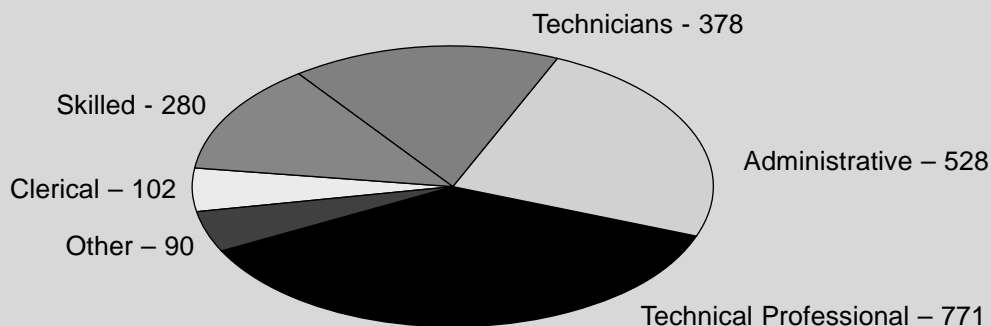
PROFESSIONAL DEGREES

TOTAL 868 (40%)

EDUCATION LEVEL	# EMPLOYEES	% EMPLOYEES
Bachelor's Degree	641	30%
Post Bachelor's	37	2%
First Professional Degree	2	0%
Master's Degree	150	7%
Post Master's	5	0%
Post-Sixth Year	1	0%
Doctorage Degree	25	1%
Post-Doctorate	7	0%

CIVILIAN PERSONNEL BY OCCUPATION

TOTAL 2,149



Other - Consists of student trainees, firefighters, guards, and detectives

Clerical - assistants, secretaries and office automation

Skilled - Blue collar workers

Technicians - Engineering technicians, other technicians

Administrative - specialists (personnel, acquisition, equipment, training, etc.) administrative officers, technical writer/editors, budget analysts, management analysts, program analysts, and traffic managers, etc)

Technical Professionals - Engineers and scientists

All personnel numbers on this page reflect IHDIV, detachments, SEALOG and EODTD.



Bankcard/Contracts

THE INTERNATIONAL MERCHANT PURCHASE CARD

The International Merchant Purchase Card (I.M.P.A.C) is a method of payment for small purchase actions below the small purchase competitive threshold of \$2,500. The I.M.P.A.C, also referred to as the “bankcard,” is widely used throughout the Division and by its tenants. The bankcard allows us to purchase from any vendor who offers the most competitive price and accepts a government bankcard.

- Total sales: \$15,480,000 (monthly average \$1,299,000)
- Total transactions: 22,642 (monthly average 1,887)

The IHDIV currently has 25 cardholders warranted to use the purchase card up to \$25,000. When they place orders between \$2,500 and \$25,000, they are required to establish a letter of agreement (LOA) with small business vendors who agree to permit the use of the purchase card as a method of payment for oral orders placed by these individuals. LOAs cannot be established with large business concerns. Small business vendors must also agree to bid on oral solicitations and to accept the terms and conditions normally associated with the procurement of commercial items.

FY00 TOTAL ACTIONS/OBLIGATIONS

<u>PRICE CATEGORY</u>	<u>NO. OF ACTIONS</u>	<u>OBLIGATIONS</u>
Less than \$25,000	1,045	6,828,618
\$25,000 - \$49,999	185	6,563,349
\$50,000 - \$99,999	238	16,578,084
\$100,000 - \$499,999	353	77,443,401
\$500,000 - \$599,999	26	13,907,303
\$600,000 - \$999,999	33	23,936,012
\$1,000,000 - \$4,999,999	42	89,965,668
\$5,000,000 - \$9,999,999	4	26,870,908
\$10,000,000 Or More	1	21,381,000
Total	1,927	283,474,343

BUY MARYLAND PROGRAM

The Division is involved in a Buy Maryland Program, which is facilitating the portion of the Federal Acquisition Streamlining Act of 1995 that legislatively allows oral purchases within the \$25,000 threshold to be placed within the local area. The goal of Buy Maryland is to increase business to local firms by developing a local vendor base able to provide goods and services in response to the needs of the Division. Through Buy Maryland, employees are encouraged to make their government bankcard purchases directly from the local community.

- FY00: \$5,521,939, 8,221 actions
- FY99: \$3,915,260, 6,888 actions
- FY98: \$2,953,545, 4,885 actions
(1 April - 30 Sept 1998, actual inception of Buy Maryland Program)

CONTRACTS FOR FY00

- **Public Works** \$10,207,537
- **Local** \$655,712
- **Training** \$242,008
- **Other** \$8,382,202
(Includes contracts that are not awarded to local businesses but support the local community by employing local residents and/or subcontracting to local businesses.)
- **Total** \$19,487,459
(Includes Bankcard numbers.)

Awarded two military construction projects in FY 00:

- P-158 Continuous Processor Scale-Up Facility for \$6.59 million
- P-151 Centralized Sewage Treatment Plant for \$10.2 million

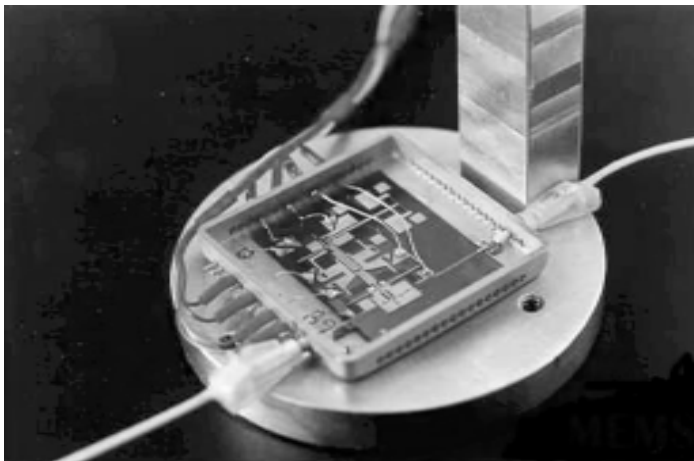
Program Highlights

Technology has become the driving force for the Division’s decision making—it is what determines what we work on, how we are organized, who we hire, and what facilities we need. The following is a list of the Division’s technical achievements and how these technologies relate to the facilities we have planned to further our work in the various areas.



MEMS S&A

MEMS stands for Micro-Electrical Mechanical Systems. MEMS devices are rapidly emerging in a multitude of commercial applications in communications, the automotive industry, the biomedical field, and industrial plant manufacturing process control systems. MEMS technology is about miniaturizing complex electro-mechanical devices, which involves combining sensing and actuating capabilities on a single silicon chip. The Division has taken the leadership role in the last five years to develop MEMS technology for Navy weapons. The next generation of underwater weapons will require fuse safe and arming (S&A) controls to be safer, smaller, and more capable. MEMS is the technology that



allows the Division to meet fleet requirements for a fuse S&A that is ten times smaller, more capable, and more reliable, and has a lower life cycle cost and potential applications for a wide range of Navy and Department of Defense weapons. The Division's MEMS efforts reached recent and significant milestones; in August in-water demonstrations of the MEMS S&A were conducted in Keyport, RI. The Division demonstrated the ability of a MEMS S&A prototype to operate in full-scale torpedo conditions and environments. *Facility Overview:* As a driving technology of the Division, MEMS has resulted in the decision to invest in a new facility called a MEMS clean room. This is a modern research and prototyping facility dedicated to the assembly, packaging, and testing of MEMS systems that contain propellants and explosives. To our knowledge, the Division clean room is the only one of its kind in the world.

Mk 66 Mod 4 2.75-INCH ROCKET MOTOR, HERO SAFE, INTEROPERABILITY

The Division has been involved in the design and manufacture of the 2.75-inch rocket system since its inception in the early 1950s. The 2.75-inch rocket system is the most widely used air-to-ground rocket system in the world. The U.S. military

uses over 250,000 2.75-inch rockets in fixed wing airplane and helicopter gunnery training a year. Recent requirements have been to develop new technology to protect ordnance from unplanned ignition by electromagnetic energy in the environment. In the early 90s the Division began developing a new 2.75-inch rocket motor that would meet the requirements of the hazards of electromagnetic radiation to ordnance (HERO) standards. In 1996 the Division designed, qualified, and received approval for the Naval deployment of the "HERO-Safe" Mk 66 Mod 4 2.75-inch rocket motor. We also have achieved recent success with the introduction of this rocket motor into all the inventories of all three U.S. military services. Interoperability among the U.S. military is an important and strategic item in the DoD and therefore a significant driver for the Division.



Facility Overview: Rocket Motor Exhaust Scrubber Facility. Being a full-spectrum activity, the Division not only designs and builds but also tests products like the 2.75-inch rocket motor. Protecting the environment and staying ahead of EPA requirements is but one facet of our business. The Division is in the process of developing technology for a new indoor static test firing facility that will scrub the exhausts from rocket motor testing.

PILOT-SCALE CONFINED BURN

In 00 the Division completed testing of a pilot-scale confined burn facility. This confined burn technology is being developed to treat propellant and explosive wastes. The objective of the project is to fine-tune the confined burn process as an alternative to open burning to dispose of energetic wastes.

Facility Overview: Full-Scale Confined Burn Facility. The Division has confirmed that a confined burn facility should provide a technically and economically viable alternative to open burning. From this research, a smaller and therefore less expensive facility is required for the planned full-scale confined burn facility than originally estimated.

CARTRIDGE-ACTUATED DEVICES AND PROPELLANT-ACTUATED DEVICES (CAD/PAD) ACQUISITION REENGINEERING

CAD/PADs are the energetic devices that are used in pilot ejection seats. The Division is the single stock point for the military for CAD/PADs and has developed a new process that improves our responsiveness to the fleet customer. One of our re-engineering teams has put in place a system that allows the customer to order devices by a simple phone call, fax, or email. With this system we have reduced re-supply





lead times for our customers on this continent from 120 to 7 days. By January 2001 IHDIV will go global and will use the Internet to implement a Web ordering system so that our customers in Japan, Italy, Bahrain, Iceland, and Puerto Rico can place and verify their orders over the Web.

Facility Overview: Receipt, Segregation, Storage, and Issue Complex. To support our technological advancements in CAD/PAD acquisition in the usual Indian Head Division fashion, we are planning a totally new CAD/PAD

distribution facility that will incorporate these virtual fleet support programs and other modules that are on the horizon. CAD/PAD will respond anytime anywhere.

PROPELLANT DEVELOPMENT

The Division is in the business of researching and developing



explosives and propellants for the Department of Defense. In 2000 the area of nitramine gun propellants was quite active, with experts manufacturing nearly 50,000 pounds of propellants in support of such programs as Naval Surface Fire Support, Extended Range Guided Munitions, Cargo Projectile, and Barrage Projectile. The Indian Head Division also reached the formal Navy final qualification of EX 99 Propellant, a significant milestone.

Facility Overview: Continuous Processing. The future of developing new propellants at the Division reached a new milestone when on 18 September 2000, the Division broke ground for the \$6.59 million Continuous Processing Scale-up Facility. The total investment in this new technology using this new facility is a solid \$35 million, a significant testament of Indian Head's value from the Navy and the Department of Defense. The future in energetics manufacturing technology is in continuous processing. The Division research has proven that continuous processing is a cost-effective, safer, and environmentally sound process for some product lines. We are continuing to deploy this processing approach to a larger number of products. This new facility to verify and scale up continuous processing for energetics will be operational in a few short years.

In summary, technology at the Division is meeting current and future fleet requirements, and driving strategic facility planning. The Division has the best support possible for energetics within NAVSEA.

Awards

NATURAL RESOURCES CONSERVATION FOR AN INDUSTRIAL INSTALLATION

The Division was recognized by the Naval Sea Systems Command and the Chief of Naval Operations for its accomplishments in the areas of land use and forest management, conservation education, and community



relations. The Division established a proactive natural resources program in cooperation with other government agencies and conservation organizations. During the last three years, the Natural Resource Office has invested over \$200,000 dollars on geographic information systems and global positioning systems technology, an integrated natural resources management plan, and various research projects to assess watershed health through work on aquatic inventories and habitat improvements. The Division's natural resources program has sought to actively involve employees

and local residents through environmental education camps, beach cleanups, and youth fishing derbies. The Division strives to set an example for its employees and the public to use the best possible conservation management techniques to enhance native species and to assume a leadership role in environmental stewardship.

ENVIRONMENTAL CLEANUP INDUSTRIAL INSTALLATION

The Division was recognized by the Naval Sea Systems Command for its ongoing efforts in the areas of fast track cleanups, partnerships addressing cleanup issues between Department of Defense and other entities, restoration advisory boards, and reducing risks to human health and the environment. The Division was listed on the National Priorities List in September 1995. To date, the command has been successful in implementing five removal actions and has been able to alter projects in the planning stage so that installation restoration (IR) sites are not disturbed. In 1997 IR sites were added to our geographical information system, which has been invaluable in identifying potential conflicts with new projects and sites in the IR Program. Although the Division is faced with ongoing environmental cleanup challenges, the environmental cleanup program at the Division continues to prosper because of the commitment of the cleanup team to protect human health and the environment in the most efficient and cost-effective manner. This is evidenced by the command receiving this award.

TREE CITY USA AWARD

Sponsored by the National Arbor Day Foundation in cooperation with the National Association of State Foresters and the USDA Forest Service, this award recognizes communities for their ongoing urban forestry efforts. To become a "Tree City USA," a community



must meet four standards: establish a tree board or department, enact a tree care ordinance, have a comprehensive community forestry program, and observe Arbor Day. For the fifth year in a row the Division was honored by this national recognition for its tree-care program.

MARYLAND PLANT COMMUNITY AWARD

Sponsored by the Maryland Department of Natural Resources Forest Service and the Maryland Community Forest Council,

this award was presented to the Division for the third year a row. This award is given to Maryland communities that are actively involved in tree planting.

NAVSEA's NOMINEE FOR THE COMMANDER-IN-CHIEF'S INSTALLATION EXCELLENCE AWARD

This Presidential Awards Program was established to recognize outstanding efforts by personnel of each service in the operation and maintenance of U.S. military installations worldwide. The award recognizes an installation whose command has made the best use of available resources to accomplish its assigned mission, and focuses on imaginative and innovative management actions that have increased the productivity of its work force and enhanced the quality of life of assigned personnel. The Division continued its remarkable performance in total quality enhancement, awards competitions, occupational safety and health programs, and community relations during FY99.



BISSON AWARD



Mrs. Ahn Duong, IHDI V Program Manager for the Undersea and Explosive Weapons Program was awarded the prestigious Dr. Arthur E. Bisson Prize for Achievement in Naval Technology from the Office of Naval Research. As the prime mover in transitioning high-performing, insensitive Navy explosives into modern Navy, Army, Air Force, and Marine Corps

weapons, Duong is responsible for a total of nine plastic-bonded explosives being transitioned into 16 different weapon warheads. For over four years, she has been the Insensitive Munitions Advanced Development High Explosives Program Manager and in this capacity made the program a model effort in the Naval Sea Systems Command.



Duong also is the Navy technical focal point for high explosives and is a member of the following national and international groups: NAVSEA Insensitive Munitions Working Group, NATO AC310 Subgroup I, Explosives (U.S. Representative), and the Configuration Control Board for U.S. Navy PBX's. In the official citation, Duong's untiring efforts, professionalism, and total dedication to duty reflect great credit upon herself, the Office of Naval Research, and the United States Navy, and are in keeping with the highest traditions of the United States Naval Service.

NAVSEA COMMANDER'S AWARD FOR EXCELLENCE— FIELD TEAM

Recognized as one of the command's most outstanding field teams, the Cartridge-Actuated Devices, Propellant-Actuated Devices (CAD/PAD) Supply Support Reengineering Team of the CAD/PAD Program was bestowed this high honor. This team was established to investigate, validate, and adopt a proven commercial resupply practice to reduce CAD/PAD resupply times from 90 to 120 days to just under 8 days. Further, the team was charged with reducing fleet workload in managing the stock. The reengineered process has been deployed to locations within the continental United States, adopting a clear focus on fleet responsiveness. Their technical professionalism and expertise is a matter of record and recognized amongst all the user programs.

NAVSEA COMMANDER'S AWARD FOR EXCELLENCE— FIELD TEAM HONORABLE MENTION

The Division CAD/PAD interactive electronic technical manual team of the CAD/PAD Program was recognized for its accomplishment in deploying the manual to the fleet via the internet. With this deployment, the fleet has its first such manual on the internet, a significant improvement over both the paper and CD-ROM versions of the technical manuals. Making it easier to gain access to up-to-date technical information has built customer confidence and maintains the Division's reputation as the best source for these items.

Patents

The Constitution of the United States gives Congress the power to enact laws relating to patents in Article I, section 8, which reads "Congress shall have power ... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

The creativity and technical innovation of an organization may be measured by the number of patents filed. At the Division, we encourage scientists, engineers, and technicians

to take full advantage of the opportunities to patent novel materials, machines, and processes that they invent in the performance of their duties. These inventions benefit—

- The organization by reducing product costs, and providing royalty income.
- The inventor, who receives cash rewards and royalty income.
- The community/society with new markets, industries, and jobs, and safer, cheaper, higher quality products.

PATENTS GRANTED IN FY00

- No. 5,972,136, entitled "Liquid Propellant" by inventor Kerry Wagaman
- No. 6,009,810, entitled "Airbag Propellant" by inventor Christine Walsh
- No. 6,110,306, entitled "Complexed Liquid Fuel" by inventor John Consaga
- No. SIR H1806, entitled "Variable Radar Altimeter Test Apparatus," by inventors Troy Ammons and Lawrence Miller

INVENTION DISCLOSURES

The Division's Invention Evaluation Board has evaluated the following invention disclosures and found them suitable for drafting patent applications, which are filed with the United States Patent and Trademark Office. Suitability was based upon the following rating factors:

1. Navy Needs/Requirements - The degree to which the invention addresses a Navy need.
2. Feasibility/Use - The degree to which the invention could be expected to be used by the Navy. Is it currently in actual use by the Navy?
3. Mission Relevance - The degree to which the invention enhances the core technical capabilities or status of the Division.
4. Technological Advancement - What is the relative significance of the invention? Is it a pioneering invention? Is this a significant or a marginal improvement in the art?
5. Degree of Development - Has a working model been built? Has comparative testing been done?
6. Dual Use - Potential for commercialization, licensing (for income to the Command and the inventor(s)), attracting CRADA partners, etc.
7. Affordability Impact - To what degree could the invention be expected to reduce acquisition or life cycle costs?
8. Environmental Impact - To what degree does the invention provide a positive impact on the environment or affects safety?

INVENTION DISCLOSURES

Navy Case 82, 155, “Reduced Burning Rate Incendiary” by inventors Robert Gill, Carl Gotzmer, Pamela Carpenter and Eric Schlegel

Navy Case 82,249, “Detonation Cord Stowage System” by inventors John Hendershot, John Murphy, and John Luense

Navy Case 82,271, “Low Slag, Low Hazard Incendiary” by inventors Robert Gill, Carl Gotzmer, Pamela Carpenter and Eric Schlegel

Navy Case 82,272, “Method to Produce Improved ESD Sensitivity in Ti/Boron Compositions” by inventors Robert Gill, Carl Gotzmer, Pamela Carpenter and Eric Schlegel

Navy Case 82,273, “Low Hazard, High Flame Temperature Incendiary” by inventors Robert Gill, Carl Gotzmer, Pamela Carpenter and Eric Schlegel

Navy Case 82,274, “High Torque 2.75-Inch Rocket Nozzle” by inventor Steve Kim

Navy Case 82,298, “Complexed Liquid Fuel Compositions” by inventor John Consaga

Navy Case 82,314, “Gradient Explosives” by inventors Raafat Guirguis and John Kelley

Navy Case 82,348, “Mine Neutralization Chemical Injection Penetrator” by inventors Jonathan Ross and Victor Carlson

Navy Case 82,349, “Nitinol O-ring” by inventor Randall Johnson

Navy Case 82,351, “Inexpensive, Insensitive, Throttleable Rocket Propulsion System” by inventors Kerry Wagaman and Douglas Elstrodt

Navy Case 82,352, “New Coating Process for Plastic Bonded Explosive” by inventors Philip Han and David Jordan

Navy Case 82,353, “Manual Die Set for Pressing Highly Sensitive Explosive Pellet into the Hardware Directly” inventor Philip Han

Navy Case 82,354, “Self Aligned Manual Die Set for Pressing Highly Sensitive Explosive” by inventor Philip Han

Navy Case 82,355, “Shock Wave Accelerated Projectile

Device” inventors Edward Lustig and others from NAVEODTECHDIV

Navy Case 82,360, “Manual Die Set for Pressing Donut Type Pellets (Hollow Cylindrical Pellets)” by inventor Philip Han

Navy Case 82,397, “Mechanism for Deploying Cylindrical Objects From a Spinning Container” by inventor Frederick Borrell

Navy Case 82,423, “Process to Obtain High Strength in Teflon-Aluminum Composite” by inventor Vasant Joshi

Navy Case 82,424, “Novel Casting Tool that Achieves High Propellant Packing Density in High L/D Motors” by inventor Harry Archer

Navy Case 82,492, “Strapless Bomb Pallet” by inventor Mark Heinrichs

Navy Case 82,503, “Uses of Gas-Generating Liquid Composition” by inventor Kerry Wagaman

Navy Case 82,652, “Two-Piece Base Pad Igniter Bag” by inventor Susan Peters

Navy Case 82,656, “Igniter, Thermite, Non-Electric” by inventor Bradley Francisco

Navy Case 82,682, “Cast Composite Propellant with Low Pressure Exponent” by inventors Durell Boyd and Ray Bazil

INTELLECTUAL PROPERTY ROYALTY:

Navy license with Arch Chemical, Inc., under Patent 5,223,057, “Monopropellant Aqueous Hydroxyl Ammonium Nitrate/Fuel” by inventors Kurt Mueller and M. Czesla.

Cooperative Research and Development Agreements (CRADAs)

CRADAs are partnership agreements between a federal laboratory and non-federal partners (business, state, local government, or educational institution) to participate jointly in a technology transfer or research and development activity. Under a CRADA, the government laboratories provide personnel, services, facilities, equipment, or other resources with or without reimbursement (but no funds to nonfederal parties). The nonfederal parties provide funds, personnel, services, facilities, equipment or other resources toward the conduct of specified research and development efforts that are consistent with the missions of the laboratory.

CRADAS SIGNED IN FY00:

NCRADA-IHNSWC-2000-008 with University of Maryland at College Park (UMCP) entitled: “Technical Assistance to the University of Maryland’s Technology Extension”



The purpose of this CRADA is to facilitate the transfer of technology from Indian Head Division to companies in Maryland, in particular small businesses, who request technical assistance through UMCP’s Technology Extension Service (TES). The Division possesses leading edge technical skills in specific areas that are critical to developing and maintaining a competitive world position for many U.S. companies.

The State of Maryland is home to a growing number of technologically based companies. Many of these companies have technical needs that are similar to Indian Head Division’s skills. The UMCP has established the TES to meet the technological needs of Maryland companies. TES provides direct, on-site assistance to Maryland industries through five field offices staffed with engineers with industrial experience. TES has historically drawn upon technical support from university faculty to enable application of the best technology for each company’s needs.

NCRADA-IHDNSWC-00-010 with Primex Technologies, Inc. entitled “Research and Development of Rapid, Organic Standoff Technologies for Breaching Surf Zone and Beach Zone Mines and Obstacles”

The Future Naval Capabilities document has highlighted the need for the ability to clear rapidly the landing zone of any anti-tank and anti-vehicle mines. The accomplishment of this beach zone mission must be rapid and organic and have stand-off.

The intent and nature of the work done under this CRADA is to conduct research and development on a concept that would lead to employing innovative Indian Head Division payloads using two different Primex delivery vehicles: the 155-mm Advanced Gun System (AGS) projectile and the Tactical Munitions Dispenser (TMD). Two payloads will be investigated: chemical, pyrotechnic, or reactive material penetrators/flechettes and a continuous rod warhead (CRW). The penetrators will be designed to neutralize mines on the beach or in the water. The CRW warhead will be used to neutralize obstacles on the beach. The AGS precision-guided

projectile will deploy both payload types, while the TMD will be used to deploy penetrators.

NCRADA-IHDNSWC-00-012 with Pennant Engineering Technology Inc. entitled “Research and Development on Concepts to Support Natural Hazards Abatement, Chemical/Biological Decontamination, and Hazardous Storage Tank Drainage”

The technical objective of this CRADA is to conduct research, development, testing, and evaluation leading to the development of one or more systems to assist rescue personnel in controlling natural hazards such as forest fires or avalanches. Additional efforts will also focus on new support equipment to drain hazardous storage tanks safely and heat decontamination water supplies rapidly.

NCRADA-IHDNSWC-00-009 with Science Applications International Corporation entitled “Research and Development of Stand-off Delivery of Mine and Obstacle Clearing Payloads from 5-Inch Navy Guns”

The technical objective of this CRADA is to conduct research leading to the development of a countermine and counterobstacle system. This concept is being developed for a family of two 5-inch mine warfare projectiles, fired from the Mk 45 Mod 4 5-inch, 62-caliber naval gun. Two payload types under development by the Division will be investigated for incorporation into the system. One type of projectile carries a payload of surface-contact, chemical-filled penetrators to destroy mines in both the surf and beach zones of littoral warfare. A second type carries a continuous rod warhead payload designed to destroy light-to-medium, surface-based obstacles in the beach zone.

Community Outreach

The Division is committed to its long-standing relationship and continued involvement with Charles County and the Southern Maryland community. Below are just a few of the opportunities the Division uses to interact with and strengthen its relationship with its neighbors.

COMBINED FEDERAL CAMPAIGN (CFC)

This yearly campaign is the only authorized charitable fundraising campaign for federal employees, both civilian and military. Individuals have the opportunity to give to the charities of their choice, allowing them the opportunity to improve their own community. The 2000 campaign was another success, with employees donating over \$100,000.

UNITED IN SPIRIT TOWN-NAVY PARTNER- SHIP

The logo, "United in Spirit, A Town/Navy Partnership," was adopted by the Town of Indian Head and the Division and is used in all co-sponsored events.

This partnership promotes mutual understanding between the town and the Navy and improves the overall quality of life for all who live or work in the town. The base commander and the town mayor signed the partnership with the Governor of Maryland signing as a witness in 1997.



CHRISTMAS DRIVE

The coordinated efforts of the Creative Minds Child Development Center and the Quality of Life Department made the Christmas holiday an extra special occasion for several Indian Head families. Employees throughout the Division and the Explosive Ordnance Technology Division, along with local businesses, donated clothing, toys, and food that were distributed just in time for Christmas through this charitable drive.

GROUND HOG JOB SHADOW DAY

The Packaging Handling, Storage, and Transportation (PHS&T) Department teamed with the Military Sealift Command Underway Replenishment Center at Weapon Station Earle to host 30 seventh and eighth graders from local



middle schools for Ground Hog Job Shadow Day 2000. Navy commands were encouraged to participate in this event, which was endorsed for Department of Defense participation by the Secretary of Defense. The day was an outstanding success with the students getting a first-hand look at the PHS&T work environment.

FIREBALL FESTIVAL

For the third year in a row the Division, through its "US-United in Spirit" partnership with the Town of Indian Head, held the Third Annual Fireball Festival. This Fourth of July celebration, which took place at the Indian Head Village Green, included a classic car show, inflatables, games, entertainment, food, and a fantastic fireworks display.

SUMMER YOUTH CAMP

In its third year, Camp Tomahawk was another joint "US-United in Spirit" project between the Division and the Town of Indian Head. This summer program provided a youth camp for over 250 Division and town residents. Housed at Indian Head Elementary School, the camp offered activities such as swimming, fishing, dance, specialty camps, and various arts and crafts.

NATIONAL NIGHT OUT

Under the umbrella of the US-United in Spirit partnership, the Division and the town of Indian Head partnered once again for a Town-Navy National Night Out. Proven to be an effective, inexpensive, and enjoyable program, this activity promotes neighborhood spirit and police-community partnerships in the fight for a safer nation. Over 600 people joined in this year's celebration, which was free to the public and included food, entertainment, children's activities, and lots of crime prevention and community information.



21ST ANNUAL CHARLES COUNTY CHAMBER OF COMMERCE TRADE SHOW AND MARKETPLACE

The Indian Head Division participated in the county tradition held at Thomas Stone High School, with over 500 people

passing through its display. Employees volunteered their time to represent the Division, passing out information on the Division's mission as well as fireballs in promotion of the upcoming Fireball Festival.



RED CROSS BLOOD DRIVE

The Division participates in two blood drives each year in October and May. A combined total of over 100 pints of blood were collected and donated within the Greater Chesapeake and Potomac Region (covers D.C., Baltimore, Baltimore County, eastern/southern sections of Maryland), which includes 90 hospitals.

Technical Assistance

Since 1994, a total of 520 computer systems have been donated to 25 schools and education centers. In FY00 we distributed 96 systems, adding five new recipients. We continually strive to access additional sources for distribution, to assist schools/educational centers in fulfilling needs and requirements for the benefit of children. Schools and education centers include—

Archbishop Neale Elementary
Gale-Bailey Elementary
Indian Head Elementary
St. Mary, Star of the Sea
Mt. Hope/Nanjemoy Elementary
J.C. Parks Elementary
Education Options Program
St. Peter's Elementary
Potomac Heights Christian Academy
Charles County Education Center
Career/Technology Center
Southern Maryland Research and Technology Consortium
Matthew Henson Middle

Thomas Stone High
McDonough High and ROTC
La Plata High
Lackey High
St. Mary's Ryken High School
Spring Dell Center, Inc.
Bladensburg High ROTC

New schools added in FY00 included:

Jennifer Daniel of St. Thomas Elementary
Walter J. Mitchell Elementary
Leonard Hall Jr. Naval Academy
Yorktown Middle School, Yorktown, Virginia
Tabb Middle School, Yorktown, Virginia

Student Programs

The Division continues to be very active in incorporating student programs throughout the workforce. Students are given the opportunity to grow and experience new and exciting work and are allowed to see and understand the work accomplished at the Division. These programs include the following:

STUDENT CAREER EXPERIENCE PROGRAM (SCEP)

Formally known as the Cooperative Education Program, the SCEP program provides study-related, fully paid employment for students. This program is conducted in accordance with a planned schedule and a working agreement between the Division, the educational institution, and the student. Students must be enrolled in the SCEP at their college and maintain a 2.0 GPA. Currently, 10 students are taking advantage of this program.

STUDENT TEMPORARY EMPLOYMENT PROGRAM (STEP)

Students enrolled in the STEP must be at least 16 years of age and attending high school or college on at least a part-time basis. This program enables them to earn a salary and valuable work experience while continuing their studies. The individual departments pay the student's hourly wage, plus annual and sick leave. The appointed positions are not to exceed one year, but if the opportunity presents itself, students may be reassigned or apply for permanent employment (directly to an announcement). Currently, 25 students are enrolled in this program.

WORKFORCE RECRUITMENT PROGRAM FOR COLLEGE STUDENTS WITH DISABILITIES

This program, co-sponsored by the President's Committee on Employment of People with Disabilities and the

Department of Defense, is to refer students with disabilities for summer, part-time, temporary, or permanent employment at federal work sites. This program allows highly qualified, highly motivated students access to work experiences that they have statistically had less opportunity to encounter. This year the program was very successful in hiring two students for employment here at the Division.

COMMUNITY AND SCHOOLS TOGETHER (CAST)

CAST is a high school career and life skills program designed to assist special education students with learning to live independently and make decisions about the world of work. Each year the Division hosts CAST tours so that students can witness, first-hand, career possibilities at the facility. This year the Division hosted two visits for area high school students.

SUMMER YOUTH PROGRAM

Sponsored by the Charles County Board of Education, the Summer Youth Program has placed three students at the Division. Providing disadvantaged students the opportunity to gain valuable work experience, this program is free to employers (the Charles County Board of Education pays their salary) and lasts approximately six weeks. To be eligible, the student must attend a Charles County school and meet requirements for disadvantaged students, be recommended by a teacher, be 16 to 19 years of age, and be interviewed by the Charles County Board of Education Summer Youth Program coordinators.

Volunteer Programs

SCIENCE FAIR JUDGES

For well over 30 years, Division employees have been a mainstay participating as judges for the Charles County Science Fair. Throughout February and March 2000, over 130 Division employees donated their time judging entrees



at individual county schools as well as the county-wide competition. In addition to judging, the Division presents special awards recognizing top projects in applied science, environmental science, engineering, and physics categories.

CHRISTMAS IN APRIL

For the ninth year the Naval Explosive Ordnance Technology Division participated in Charles County's Christmas in April program. Over 50 volunteers worked diligently throughout one day in April painting, doing yard work, removing trash, replacing doors, building a deck, and remodeling the kitchen of one Charles County resident.



POTOMAC RIVER BEACH CLEANUP

Held the first Saturday in April, this event is the kick-off to the Division's month long recognition of protecting the environment (ending with an Earth Day celebration). April 1 marked the Eleventh Annual Indian Head Division Potomac River Beach Cleanup. Supported by the Chesapeake Bay Trust, over 57 volunteers successfully removed 62 bags of trash and a variety of debris from tires to screen doors. The goal of this program is to clean the watershed affecting the Chesapeake Bay. As trash and debris is removed from local rivers, creeks, and streams, the water quality of the bay is greatly improved.



Recreational Events

MORALE, WELFARE AND RECREATION (MWR)

MWR plays a vital role in supporting the Division and the community. Below are some programs MWR has available:

- Supports Little League by providing field, maintenance, and advertising.
- Supports a swim team.
- Provides a pool on selected evenings for the town's private use.
- Conducts a summer concert series.
- Promotes town/Navy partnership events in the *Arrowhead/Flash Point* insert.
- Hosts annual softball tournaments in the summer.
- Works directly with the Senior Center in Indian Head.
- Offers various sports, fitness, and other recreation events.
- Provides handicapped employment opportunities through a cooperative venture between MWR, Melwood Farm Training Center, and Jerry's Subs and Pizza.

FISHING DERBY

Each year, the first Sunday in November is dedicated to the Division's annual children's fishing derby. The Natural Resources Office takes pride in sponsoring this event for children ages three to twelve. Sixty-four children took part in this year's derby, with all children taking home a prize for their participation.



ENVIRONMENTAL CAMP



For two weeks during the summer, the Bullitts Neck Environmental Education Center was home to over 40 children. The two 1-week sessions featured educational games, field trips, tree identification and paper-making, wetland ecology, forestry, fish seining and identification, and animal adaptation. Added activities included arts and crafts, canoeing, swimming, campfire stories, games, songs, and an overnight campout.

AUTUMN FESTIVAL

This year the annual Autumn Festival theme was "Indian Head—Team 2000," emphasizing the relationship between the Division and the twelve tenant commands that make Indian Head their home. All these organizations, although carrying out a different Department of Defense mission, work together in support of the warfighter. This all-day event takes place at



Autumn Fest Park and for the day, the gates are open to the public. This is the Division's largest command-wide event and gives us all a safe haven to enjoy great food, children's activities, entertainment, and good old-fashioned conversation.

Safety and Law Enforcement

The Division has a memorandum of understanding with the Charles County Department of Social Services with respect to protective service issues and joint investigations that stem from domestic violence and protective service complaints. We have an agreement with the Maryland State Police to provide medical emergency support (helicopter transport) and escort support for CBIRF. We are currently working on a memorandum of understanding with Charles County. We have established the groundwork for a mutual aid agreement with the Charles County Sheriff's Office in several areas: maintenance of explosive material (dog scent kits) stored for them at IHDIV; use of radar and traffic enforcement devices by the Division on loan from the Sheriff's office; temporary use of the Sheriff's Office Emergency Services Team for executive and VIP protective measures; and mutual training activities with the Joint Military Attaché School.

NEIGHBORHOOD WATCH PROGRAM

This is an ongoing crime prevention program that establishes a network of local residents interacting with the Law Enforcement Division and each other to prevent and deter crime. A newly established Community Oriented Policing

Unit works with neighborhood residents to prevent crime and provide support for the resident and employee population with crime statistics, training, youth support, community awareness bulletins, neighbor dispute resolution, and quality of life events.

FIRE PROTECTION

A mutual aid agreement with the Charles County Volunteer Fire Department allows us to provide additional firefighting and emergency medical services to the community. During Fire Prevention Week, the Division coordinates visits to our firehouse for local area school children.

HAZARDOUS MATERIALS AND EMERGENCIES

The Charles County Emergency Management Program addresses hazardous material accidents in the community. However, local agencies may request assistance or additional support from the Division, that has a hazardous materials response capability including extensive personnel training, a 2,000-gallon vacuum truck/oil spill recovery vehicle, and a complete inventory of spill and emergency response supplies and equipment. The Division also has a 22-foot Boston Whaler with Kingpost for use with an oil spill containment boom.

Special Events

EARTH DAY

The campaign for Earth Day 2000 was "Clean Energy Now!" focusing on the Clean Air Agenda, a blueprint for a smart shift to clean, renewable energy sources. At the Division we have continued to do our part through our environmental, natural resources, and restoration programs as well as upgrades to our infrastructure. During the last three years, the Natural Resource Office has spent over \$200,000 dollars on geographic information systems and global positioning systems technology, the integrated natural resources



management plan, and various research projects to assess watershed health through work on aquatic inventories and habitat improvements. This program has sought to actively involve employees and local residents through environmental education camps, beach cleanups, and youth fishing derbies. The Division strives to set an example to its employees and the public to use the best possible conservation management techniques to enhance native species and to assume a leadership role in environmental stewardship. In addition, the ongoing upgrades to the Goddard Power Plant have reduced nitrogen oxide air emissions and potable water usage. The Division recycling efforts of solid wastes continue to increase, and water quality from the sewage treatment facility continues to improve due to positive changes to the facility. All these efforts confirm that the Division is proactive in preserving and building a strong environment. This event was marked by the traditional tree planting in recognition of Arbor Day.

STATE OF THE DIVISION

The State of the Division program, hosted by the Western Charles County Business Association, is an opportunity for the Division to inform the local community of its achievements and goals. This event was held in the fall and was marked by briefings from the Commander and the Director.



Clubs and Organizations

TOASTMASTERS INTERNATIONAL CLUB No. 3173

The Energetic Toastmasters Club has been chartered at the Division for over 35 years. Toastmasters International is the leading movement devoted to making effective oral communication a worldwide reality. Toastmasters clubs

provide a mutually supportive and positive learning environment in which every member has the opportunity to develop communications and leadership skills, which in turn foster self-confidence and personal growth.

CUB/BOY SCOUTS

Boy Scout Troop 253 and Cub Scout Pack 421 were established over 50 years ago. They are the only scouts in Southern Maryland that have their very own Scout Hut. The Scouts are involved with many activities. They assist with the Potomac River cleanup effort and participate in fishing derbies, National Night Out, food and toy drives for the needy in Charles County, hiking, and mountain climbing.



CIVIL AIR PATROL

The Civil Air Patrol is located at the Naval Explosive Ordnance Disposal Technology Division (Stump Neck Annex) in building 2073 and meets every Tuesday evening. The Civil Air Patrol's mission is three-part: emergency services, airspace education, and the cadet program. It is an official volunteer auxiliary of the Air Force.

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION (NDIA), INDIAN HEAD CHAPTER



The NDIA is a nonprofit, educational membership association. The basic mission is to promote the security of the United States by fostering awareness of and support for a United States technological/industrial infrastructure that is capable of responding to any global changes. Under the auspices of NDIA, industry and government come together to exchange ideas, develop technology, and produce dependable, effective defense products. NDIA will remain the pre-eminent defense association for the government and the industrial base through dedication to education, technology advancement, and future national security.

Miscellaneous

AM 1610 RADIO

The Division's information radio station, AM 1610, transmits to a radius of 2.5 miles. It broadcasts messages to employees and community members including special event announcements, visitor information, status during inclement weather, Navy announcements, safety and emergency bulletins, and other issues of interest.

Locally Based Vendors

Below is a list of locally based companies and vendors that provide a ready, cost-effective source for commercially available products and services to the Division.

A-1 Plating Co Inc.
Automation and Telecommunication
Advanced Packaging Inc.
Adsuco
Advanced Engineering & Sciences
Advanced Technologies Research Inc.
Advent Electric Inc.
AEPCO Incorporated
Aggregate Transport Corp.
AIM Inc.
Air Technology Systems Inc.
Aireco Supply Inc.
Airflow Co.
Alban Tractor Co Inc.
All Safe Fire Equipment Inc.
Allen Communication Inc.
Allied Electronics Inc.
AMBU Inc.
American Combustion Inc.
American Excelsior Co.
Ames Messco Inc.

Amish Craftsmen
 Andercorp Inc.
 Anthony-Lee Associates
 Applied Ordnance Technology, Inc.
 Applied Sciences Corporation
 Arnold's Factory Supplies
 Arrow Electronics Inc.
 Ashland Chemical
 Atlantic Alliance Corp.
 Atlantic Distribution Group
 Auto Discount Center
 Axis Electronics
 Battery Warehouse
 Beamhit L.L.C.
 Bechdon Company
 Besche Oil Company
 Best Lock Corporation-Best Access Systems
 Best Locking Systems of Washington Inc.
 Best Machine Co Inc.
 Best Plumbing Specialties
 Beta Analytics Inc.
 Boland Trane Services Inc.
 Brentland Corp.
 Bronze and Plastic Specialities
 Browns Refrigeration Service
 Brushtronics Engineering
 Bryans Road Building Supply Co Inc.
 Budekes Paints
 C H Reed Inc.
 C R Daniels Inc.
 Cathell Associates
 Caton Diversified Technologies Inc.
 Caldwell Casting Co.
 Cameo Electronics Co Inc.
 Capital Cable and Technology Inc.
 Capital Compressor Inc.
 CAPP Inc.
 Capron Company Inc.
 Carson Richard S and Associates Inc.
 Carvells Woodworks
 Cellular One
 Center Core Inc.
 Cetrom Consulting Engineering Services
 Champion Billard Supply Inc.
 Charles County Chamber Of Commerce
 Charles County Community College
 Charles County Computers Inc.
 Charles County Concrete Co Inc.
 Charles County Health Department
 Charles County Umpire Assoc.
 Charles G Stott and Co Inc.
 Charrette Corp.
 Chesapeake Analytical Lab Inc.

Chesapeake Corp.
 Chesapeake Optical Co.
 Chuck's Butcher Shop
 Circus Ice Cream Inc.
 College Of Southern Maryland
 Columbia Balance Service
 Comp USA
 Computer Entry Systems
 Computerland Mid Atlantic
 Comteo Federal Inc.
 Concurrent Computer Corp.
 Control Data Corp.
 Cooke W H and Co.
 Corporate Systems Technology Inc.
 CV Carlson Co, Inc.
 Cytex Fiberite Inc.
 Dan Rainville & Associates Inc.
 Datasource Inc.
 Date International Inc.
 Daves Machine Shop
 Dick Wildes Printing Co Inc.
 Do All Industrial Supply Corp.
 DPRO Westinghouse Electric
 DRS Electronic System Inc.
 Dynaflow
 Edgemark Systems Inc.
 EG & G Washington Analytical
 Executive Business Products
 Federal Data Corporation
 Ferguson Enterprises Inc.
 Force 3 Inc.
 Free State Business Machines Inc.
 Future Enterprises Inc.
 Garcia Information Sys Corp.
 Glenmar Draperies Inc.
 Grassland Services
 Holiday Inn of Waldorf
 Honeywell Inc.
 Hugh D. Jascourt
 Hughes Supply Inc.
 Hungerford Associates
 IBEC Industrial Inc.
 IBM Corp.
 Independent Propane Inc.
 Indian Head Hardware
 Inform Business Systems
 Information System Solutions Intl.
 Information Technology & Communications Div.
 Inland Leidy
 Innovative Business Interiors Inc.
 Input Solutions Incorporated
 Interior Elements Inc.
 Interior Resources Inc.

International Computers and Telecomms Inc.
 Ispa Co.
 Ives Equipment Corp.
 J and 7 Products
 J and R Supply Corp.
 J F Taylor Inc.
 James Walker Co.
 Jobe Co Inc.
 John Hopkins University Cpia
 John Robert Associates Inc.
 John Sexton
 Jones Technologies Inc.
 JPH Engineering
 Kahn Paper
 Knapp Shoe Company
 Koch Associates Inc.
 Koll Distribution, Inc.
 Kols Containers Inc.
 Konica Business Machines Usa Inc.
 L A Benson Co.
 L and T Upholstery
 La Plata Glass
 La Plata Mill and Supply Co Inc.
 Leeds and Northup Co.
 Lee's Gas Supplies
 Lefranc Inc.
 Leonards Draperies
 Leslie Controls Inc C/O Koch Associates
 Liebert Corp.
 Lighthouse Limited
 Lightwave Technology Group
 Litronic Inc.
 Louis Aronin
 Lt Industries Inc.
 Lyon Conklin Co.
 M and W Distribution Co Inc.
 M And D Machine Co.
 M S Electronics Inc.
 Mac Machine Co Inc.
 Mattos Inc.
 Machinecraft Inc.
 Manpower International Inc.
 Manpower Temporary Services
 Manufacturing Engineering Systems Inc.
 Manufacturing Technology Solutions
 Maryland Chemical Co., Inc.
 Maryland Department of the Environment
 Maryland FME Equipment
 Maryland Petroleum Council
 Maxcess Library Systems Inc.
 McBee
 McCall Handling
 Mcconnell Pool Service Inc.
 McCormick Paint Works Co.

 McQueen and Associates
 MDL Fabricating Inc.
 Messer Griesheim Industries
 Metro Office Systems Inc.
 Metro Tool and Mfg
 Mettler-Toledo Inc.
 MG Industries Inc.
 Micro Support Services Inc.
 Mid Atlantic Calibration
 Mid Atlantic Rubber Co.
 Mid-Atlantic Computerland
 Mitchell Supply Inc.
 Mobile Media Comm Inc.
 Monterey Bay Corp.
 Motorola
 Motrol Electrical Equipment Corp.
 Moxie Machine and Tool Inc.
 MS Electronics Inc
 MSC Industrial Supply Co.
 Municipal and Contractor Sales Inc.
 N and A Military Publishing Service
 N B Cochrane Co.
 Nalco Chemical Co.
 National Institute of Standards Tech
 National Micrographics Systems Inc.
 NCR Data Processing Equipment
 NCS Technologies
 Newark Electronics
 Newburg Marine Sales
 Newport Scientific Inc.
 Omni Communications Inc.
 Onyx Industrial Services, Inc.
 Optim Electronics Corp.
 Orbital Science Corp.
 Patricia B Thompson
 Pameco
 Pangborn Corporation
 Parallax, Inc.
 Parametric Technology Corp.
 Pauls Beltway Plastics Ltd
 Pegasus Electronics
 Perry Marvin J Assoc Inc.
 PGC Scientific
 Phase Inc.
 Phillip R Walker And Assoc Inc.
 Photopro
 Piedmont Pump & Product Inc.
 Pine Tree Picture Frames
 Pioneer Technologies Group Inc.
 Plastic Piping Systems
 Pleion Corp C/O Conklin Group
 Potomac Airgas Inc.
 Potomac Hudson Engineering Inc.
 Potomac Rubber Co.

Potomac Valve and Fitting
 PRC Inc.
 Premium Office Products
 Prime Computer, Inc.
 Print and Save
 Professional Products
 R E Michel Co Inc.
 R. T. Dyson Telecommunications
 Radio Shack
 Radstone Tech. C/O Spectro Assoc.
 Read Plastics Inc.
 Rep-Tron Inc.
 Ritz Audio Visual Associates Inc.
 Ritz Camera Audio Visual Dept.
 Roberts Oxygen Company Inc.
 Robinson Chemical Co.
 Robotics Systems Technology
 RPG Digital Imaging
 Savin Corporation
 Safety Kleen Corp.
 Schultes AC of Maryland Inc.
 Second Source Electronics Inc.
 Seltronics Inc.
 Seven Star Aggregates Inc.
 Sheridan Sign Co.
 Shielding Technologies Inc.
 Shimadzu Scientific Instruments Inc.
 Sidney Kramer Books
 Sign Language Associates
 Silicon Graphics Inc.
 Simplex Time Recorder Co.
 Skyline Mills
 Snow Valley Water Company
 Southern Maryland Gas
 Southern Maryland Sanitation Inc.
 Southern Maryland Trailer
 Spartan Cfs
 SPC Inc.
 Stanford Telecom
 Stanley Engineering Co Inc.
 Staples
 Stratford Safety Products
 Stricker and Co.
 Suburban Propane
 Suncoast Motion Pictures
 Superfresh
 Sure Power Inc.
 Sylvest Management Systems Corp.
 Systems Maintenance and Technology Inc.
 Taas Israel Industries Ltd.
 Taylor Freezer Equipment Corp.

Taylor Security and Lock Co Inc.
 Technical Testing Laboratories
 Tektronix Incorporated
 Teltronic
 Ten Hills Machine Co.
 Textile Chemical Co Inc.
 The Air Works
 The Concrete Store
 The Marvel Group
 The Presidio Corp
 The Scale People Inc.
 The Spencer Turbine Co.
 Thiokol Corp Elkton Div.
 Thomas P Liddiard
 Tidewater Machine Co.
 Tillman Tool Co.
 Tower System Inc.
 TRA COR Hydronautics
 Tracor Applied Science Inc.
 Tri-county Office Products
 Triton Services Inc.
 United Electric Supply
 United Refrigeration
 United Rentals
 United States Can Co.
 University of Maryland at Baltimore
 University of Maryland Baltimore County
 University of Maryland College Park
 UNOCAL Chemicals
 US Electric Supply Co.
 Varian Associates Inc.
 Vertical Software Inc.
 VIM Technologies Inc.
 Vince's Sales and Service Inc.
 VSI Technology Solutions
 W C Burroughs and Associates Inc.
 Waldorf Cab Company
 Waldorf Paint Bucket
 Washington Professional Systems
 Washington Valve and Fitting Co.
 Waste Management of Southern Maryland
 Waugh Enterprises, Inc.
 Werres Corp.
 Westwood Computer Corp.
 Whitaker Brothers Business Machines Inc.
 Wilcoxon Research
 Yale Industrial Trucks Inc.
 Yankee Engineering Co Inc.
 York International Corp.
 Zenmar Pneumatic Tools Inc.
 ZODMC of North America Inc.

***This page is dedicated to the Honorary Employee Award Winners of FY99.
Congratulations to all of these outstanding employees.***



Co-op of the Year,
John (Jeb) Brough,
Energetic Materials
Research and
Technology Department



Internal Customer Service Award
Sandy Gragan & Peter Nugent,
Energetic Materials Research
& Technology Department



Dr. Horst Adolph Award for Outstanding Patent
Lori Nock, Al Stern, Dr. William Koppes, Michael
Sitzman, and Donna Cason-Smith (not pictured),
Energetic Materials Research/Technology Dept



ADM Harold L. Stark Award for Innovation
CAD/PAD Re-supply Reengineering Team, CAD/PAD Department



Roger M. Smith Team Award
Nitramine Plant Restart Team



Cost Reduction Award
Linda Davis, of NAWCAD St. Inigoes and Paul Lott, CAD/PAD Department
Albert T. Camp Library Team
Janet Ferrell, Michael Sikora, and Joyce Claggett



**Captain H.E. Lackey Award
for Community Service**
Norma G. Rice,
Information Services Dept



**Equal Employment
Opportunity Award**
Dr. Scott Deiter,
Corporate Operations Dept



**Koehler Award for Quality of Life
Enhancement**
Kathy Timmerman,
Corporate Operations Department



**Joe L. Browning Award for
Managerial Excellence**
Robert Adams,
Ordnance Department



**Dr. George W. Patterson Award for
Outstanding Accomplishment**
Bob Kaczmarek,
Weapons Engineering Department



Dashiell Award for Excellence
Dr. Dana Goto, Underwater
Warheads Technology
Development Department